| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/773,059 | 01/31/2001 | Terry G. Hahn | ZAM-0002 | 6102 |

7590          05/04/2004

PATENT DEPARTMENT
ATTN: BARRY YOUNG
GRAY, CARY, WARE & FREIDENRICH LLP
1755 EMBARCADERO ROAD
PALO ALTO, CA 94303

| EXAMINER |
|---|
| MOSLEHI, FARHOOD |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2154 | |

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| Office Action Summary | Application No.⬤ 09/773,059 | Applicant(s) HAHN ET AL. | |
|---|---|---|---|
| | Examiner Farhood Moslehi | Art Unit 2154 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _31 January 2001_.

2a)☐ This action is **FINAL**.  2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _2,7_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

## DETAILED ACTION

1.     Claims 1-22 are presented for examination.

### *Claim Rejections - 35 USC § 102*

2.     The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.     Claims 1-9,14-22 are rejected under 35 U.S.C. 102(e) as being anticipated by

Lumelsky et al. (6,516,350) (hereinafter Lumelsky).

4.     As per claim 1, Lumelsky teaches a dynamic directory system, comprising;

At least one relational table that includes a plurality of entries that can each store

location data, status data, and feature data of server processes in a distributed

computing system that services client requests (e.g. Figure 7(a)); and an interface that

may provide at least one enter from the at least one relational table to a client (e.g. col.

6, lines 25-31).

5.     As per claim 19, it is rejected for similar reasons as stated above.

6.     As per claim 2, Lumelsky teaches the dynamic server directory, wherein:

The location data of an entry may comprise a network address (e.g. Figure 7(b)); and

the entry may include a server name to identify a specific server at the network address

(e.g. Figure 7(b)).

7.      As per claim 20, it is rejected for similar reasons as stated above.

8.      As per claim 3, Lumelsky teaches the dynamic server directory system, further

including:

A route table that can indicate at least one communication route to a server host and

the status of said route (e.g. Figure 7(b)).

9.      As per claim 21, it is rejected for similar reasons as stated above.

10.     As per claim 4, Lumelsky teaches the dynamic server directory system, further

including:

A plurality of dynamic server directory agents that reside on different host machines

than the dynamic server directory, each dynamic server directory agent caching at least

a portion of the at least one relational table (e.g. col. 6, lines 1-12).

11.     As per claim 14, it is rejected for similar reasons as stated above.

12.     As per claim 17, it is rejected for similar reasons as stated above.

13.     As per claim 18, it is rejected for similar reasons as stated above.

14.     As per claim 5, Lumelsky teaches the dynamic directory system, wherein:

The relational table includes a key field that may be searched by a key prefix value that

can filter entries according to client request criteria (e.g. Figure 7(a)).

15.     As per claim 6, Lumelsky teaches the dynamic server directory system further

including:

A plurality of dynamic server directory agents that reside on different host machines than the dynamic server directory, each dynamic server directory agent forwarding new server process information to the dynamic server directory when a new server process is added (e.g. col. 10, lines 13-17); and the dynamic server directory creating a new entry in the at least one relational table corresponding to the server process and forwarding the updated relational table to dynamic server directory agents (e.g. col. 11, lines 1-9).

16.     As per claim 7, Lumelsky teaches the dynamic server directory system, wherein: The distributed computing system includes at least two subsystems that provide different functions; and the at least one relational table includes a plurality of relational tables, each relational table including entries corresponding to server process of one of the subsystems (e.g. Figures 6 and 7).

17.     As per claim 8, Lumelsky teaches the dynamic server directory system wherein: The at least one relational table includes a server relational table that identifies a server route corresponding to a given server process and a route relational table that identifies a communication route corresponding to a given host machine (e.g. Figures 7 a and b).

18.     As per claim 9, Lumelsky teaches the dynamic server directory system, further including:
The interface searches the server relational table and then the route relational table to determine the route to a host machine for a given server process (e.g. col. 9, lines 45-60).

19.     As per claim 16, it is rejected for similar reasons as stated above.

20.    As per claim 15, Lumelsky teaches the system wherein:

The plurality of servers include storage servers that may access stored files and

metadata servers that may access metadata for the stored files (e.g. col. 6, lines 35-40).

21.    As per claim 22, it is rejected for similar reasons as stated above.

## *Claim Rejections - 35 USC § 103*

22.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23.    Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lumelsky in view of Devarakonda et al. (6,055,562) (hereinafter Devarakonda).

24.    As per claim 10, Lumelsky does not specifically teach the dynamic server

directory system, further including:

25.    A plurality of dynamic server directory agents that reside on different host

machines than the dynamic server directory, each dynamic server directory agent

receiving periodic status communications from at least one server process and notifying

the dynamic server directory when status communications fail; and the dynamic server

directory changes entries in the at least one relational table in response to status

communication failures. Devarakonda teaches the dynamic server directory system,

further including:

A plurality of dynamic server directory agents that reside on different host machines than the dynamic server directory, each dynamic server directory agent receiving periodic status communications from at least one server process and notifying the dynamic server directory when status communications fail (e.g. col. 3, lines 35-42); and the dynamic server directory changes entries in the at least one relational table in response to status communication failures (e.g. col. 3, lines 40-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Lumelsky with Devarakonda. The motivation would have been to provide for objects (agents) to communicate information such as resource availability to the clients.

26.     As per claim 11, Lumelsky does not specifically teach the dynamic server directory, further including:

27.     A service master process that may subscribe with the DSD agent to be notified of changes to the at least one relational table, the service master performing at least one predetermined error response when the change to the at least one relational table indicates a status communication failure has occurred in a server process; and the dynamic server directory forwards changes in the at least one relational table to the DSD agent. Devarakonda teaches teach the dynamic server directory, further including: A service master process that may subscribe with the DSD agent to be notified of changes to the at least one relational table, the service master performing at least one predetermined error response when the change to the at least one relational table indicates a status communication failure has occurred in a server process (e.g. col. 3, lines 1-15); and the dynamic server directory forwards changes in the at least one

relational table to the DSD agent (e.g. col. 3, lines 20-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Lumelsky with Devarakonda. The motivation would have been to provide for objects (agents) to communicate information such as resource availability to the clients.

28.    As per claim 12, lumelsky does not specifically teach the dynamic server directory wherein:

29.    The predetermined error response may be at east one response selected from the group consisting of: attempting to restart the server process corresponding to the failure, logging the failure error, notifying a system administrator, generating a work order for the server process corresponding to the error, activating another server process as a backup to the server process corresponding to the failure, shutting down a host machine for the server process corresponding to the failure, and rebooting a host machine for the server process corresponding to the failure. Devarakonda teaches the dynamic server directory wherein:

The predetermined error response may be at east one response selected from the group consisting of: attempting to restart the server process corresponding to the failure, logging the failure error, notifying a system administrator, generating a work order for the server process corresponding to the error, activating another server process as a backup to the server process corresponding to the failure, shutting down a host machine for the server process corresponding to the failure, and rebooting a host machine for the server process corresponding to the failure (e.g. col. 4, lines 30-45). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to combine Lumelsky with Devarakonda. The motivation would have been to provide for objects (agents) to communicate information such as resource availability to the clients.

30.     As per claim 13, it is rejected for similar reasons as stated above.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhood Moslehi whose telephone number is 703-305-8646. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 703-305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

fm